


St. Ethelbert's Written Calculation Policy

	Addition	Subtraction	Multiplication	Division
Year 1	<p>Pictorial Objects Visual representations Horizontal addition $5 + 4 =$</p>	<p>Pictorial Objects Visual representations Horizontal subtraction $5 - 4 =$</p>	<p>Pictures/arrays/visual representations – relate to doubling, x2, 2 lots of, multiply by 2</p>	<p>Pictures/arrays/visual representations – relate to halving, dividing by 2, how many groups of 2, show fraction notation e.g. $8/2 = 8$ div by 2 etc. Extend to fifths and tenths. Sharing (discrete skill – explain as sharing first then as grouping which links to counting). Grouping (relate to division) including remainders.</p>
Year 2	<p>Vertical partitioning method using a column eg: <i>Start with ones</i></p> $\begin{array}{r} 67+24 \\ 60+7 \\ \hline 20+4 \\ \hline 80+11=91 \\ \hline \end{array}$ <p>Extend to compact column method if have sound understanding of place value.</p>	<p>Counting on with number line from smallest to largest number. Moving on to partitioning which leads into setting out as an expanded column.</p>	<p>Extend use of arrays to develop concepts and links between x and \div. <i>Link grouping to counting/repeated addition</i> Grid method (TOxO) Largest number partitioned vertically on left hand side.</p>	<p>Extend use of arrays to develop concepts and links between x and \div. <i>Link division to number of counts/multiples of a number/repeated subtraction</i> Counting e.g. :</p> $35 \div 5 = 7$ <p>5, 10, 15, 20, 25, 30, 35 Extend to $350 \div 50 = 7$ 50, 100, 150, 200, 250, 300, 350 <i>This could be written initially and then orally or using table knowledge as this develops.</i></p>

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<p>Year 3</p>	<p>Compact column addition (numbers up HTO)</p> $\begin{array}{r} 625 \\ + 48 \\ \hline 673 \\ 1 \end{array}$ <p>Extend to decimals in the context of money starting with multiples Begin to add fractions with the same denominator. Recognise fractions that add up to 1.</p>	<p>Decomposition (HTO) Including decimals to 1 decimal place.</p> $\begin{array}{r} 611 \\ 724 \\ - 198 \\ \hline 526 \end{array}$ <p>Extend to decimals in the context of money starting with multiples of 10p. Use counting up for small difference. Choose most efficient method. Begin to subtract fractions with same denominator.</p>	<p>Grid method (HTOxO) Largest number partitioned Vertically on left hand side.</p>	<p>Short (bus stop division) Find unit fractions of amounts and begin to find non-unit fractions of amounts.</p>
<p>Year 4</p>	<p>Compact column addition (numbers up to ThHTO) including decimals to 2 decimal places.</p> $\begin{array}{r} 2.45 \\ + 6.73 \\ \hline 9.18 \\ 1 \end{array}$ <p>Add fractions with same denominator. Know fraction complements to 1.</p>	<p>Decomposition (ThHTO) Including decimals to 2 decimal place. Use counting on where larger number is multiple of 100 or 1000, or where difference is small. Subtract fractions with same denominator. Use fraction complements to 1 to solve subtractions. Choose most efficient method.</p>	<p>Once secure with all times tables and grid method/partitioning, introduce short multiplication for HTO x O</p> 	<p>Extend short division to HTO by O Begin to reduce fractions to their simplest terms. Find unit and non-unit fractions of larger amounts.</p>

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	Choose most efficient method.			
Year 5	<p>Compact column addition (numbers up to ThHTO+) including decimals to 3 decimal places.</p> <p>Add fractions with same denominator and denominators that are multiples.</p> <p>Choose most efficient methods.</p>	<p>Decomposition (ThHTO+) Including decimals to 3 decimal places.</p> <p>Use counting on where larger number is multiple or near multiple of 1000 or 10000.</p> <p>Subtract fractions with same denominator and denominators that are multiples.</p> <p>Choose most efficient method.</p>	<p>Short multiplication (ThHTO x O) including decimals to one decimal place.</p> <p>Traditional long multiplication (ThHTO x U/TO)</p> <p>Find simple % of amounts e.g. 10%, 5%, 50% etc.</p> <p>Begin to multiply mixed numbers by whole numbers.</p>	<p>Short division ThHTO by O</p> <p>Traditional long division with divisors between 12 and 20.</p> <p>Find non-unit fractions of numbers with up to 3 digits.</p> <p>Turn improper fractions into mixed numbers and vice versa.</p> <p>Choose most efficient method.</p>
Year 6	<p>Compact column addition (numbers up to ThHTO +) including decimals to 3 decimal places.</p> <p>Add mixed numbers and fractions with different denominators.</p>	<p>Decomposition (ThHTO +) Including decimals to 3 decimal places.</p> <p>Use counting on where larger number is multiple or near multiple of 1000 or 10000.</p> <p>Use counting on with decimals where there is a small difference.</p> <p>Choose most efficient method.</p> <p>Subtract mixed numbers and fractions with different denominators.</p>	<p>Short multiplication 4 digits including decimals to two decimal places x O.</p> <p>Long multiplication (ThHTO x TO) or 4 digits with decimals x TU.</p> <p>Multiply fractions and mixed numbers by whole numbers. Multiply pairs of proper fractions, writing answer in its simplest form,</p>	<p>Long division ThHTO by TO</p> <p>Divide proper fractions by whole numbers.</p>

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